

## “The Impact of Knowing Resting Metabolic Rate on Behavioral Changes for Health and Physical Activity”

Dr. Gibson Darden  
Christine Rockey

Overweight and obesity rates have reached epidemic proportions in the U.S., with prevalence rates tripling in the last decade (Dietz, 2004). While researchers continue to search for successful weight management strategies, conclusive evidence suggests that physical activity, diet, and discipline are the keys to success in weight management, and behavioral interventions are a necessity. Numerous methods to affect changes in individual behaviors related to physical activity and nutrition have been offered. One promising method is to measure and track an individual's resting metabolic rate (RMR). To gain accurate RMR data that serves to provide feedback and perceptions of success to the individual, a current technology is necessary. In this study, a scientific device called “Body Gem,” purchased through the support of this grant will be used to determine if knowing actual caloric intake needs (RMR data) impacts student behaviors related to physical activity, diet, and motivation.

Students enrolled in PHED 220, Lifetime Fitness, will be utilized for the pilot of this study. The students will be asked to complete exercise logs, readiness for change questionnaires, nutrition logs and they will be weighed. The students will be instructed on the traditional method of calculating RMR, a theoretical mathematical calculation.

At midterm, students will be introduced to the Body Gem RMR device. Students will receive their actual RMR via this device. Students will be asked to continue exercise and nutrition logs and they will be re-weighed. At the end of the semester, the researchers should be able to determine if knowing actual RMR figures incites any behavioral changes in physical activity and diet by analyzing the logs. They will also re-administer the readiness for change questionnaire to determine if the device made any motivational changes. We hope to address these research questions:

1. Does knowing actual resting metabolic rate (RMR) increase out-of-class exercise participation?
2. Does knowing actual RMR improve eating habits?
3. Does knowing actual RMR help with motivation to exercise and eat right?

Since this device is relatively new to the market, the researchers have found no studies on how it can affect behavior. Not only will we determine if the device is useful for these types of changes for students in this class, this study could lead the way for more research on a more global level. Presentation and/or publication of these results will likely be sought in peer-reviewed outlets, and might offer additional insight into the ever-popular issue of weight management.